

September 14, 2006

ADDENDUM TO FACT SHEET

PROPOSED NPDES PERMIT NO. CA0110993 BHP BILLITON LNG INTERNATIONAL INC. CABRILLO DEEPWATER PORT PROJECT

1. Summary

EPA, Region 9 is reopening the public comment period for its proposed National Pollutant Discharge Elimination System (NPDES) permit for the proposed Cabrillo Deepwater Port. The extended comment period closes on October 23, 2006. Region 9 is also proposing certain modifications of the permit.

On April 21, 2006, Region 9 proposed an initial draft NPDES permit for this facility. The initial public comment period closed on June 20, 2006. During this comment period, Region 9 received several requests to extend the comment period. Further, the permit applicant advised Region 9 of a significant facility design change which would substantially reduce the volume of cooling water discharges. The draft permit requirements for cooling water discharges have been modified to take into account this design change. As discussed below, Region 9 is proposing certain other modifications of the permit based on comments received on the April 21, 2006 draft permit.

Region 9 invites comments on the proposed modifications of the draft permit, and will continue to accept public comments on all other aspects of the draft permit until the close of the extended comment period.

The fact sheet for the April 21, 2006 draft permit is attached to this Addendum. The previous fact sheet provides additional information concerning the facility and its proposed discharges.

2. Proposed Modifications of the Draft Permit

The permit applicant (BHP Billiton LNG International, Inc.) submitted comments to Region 9 on the initial draft permit on June 20, 2006. In these comments, BHP also described a design change for the facility which would substantially reduce the volume of cooling water which is discharged. Many commenters had voiced concerns about the potential environmental effects of this proposed discharge during the public comment period.

The original permit application indicated that the volume of cooling water discharges would average about 3.4 million gallons per day (of seawater) which would be used to cool the facility's diesel engines. However, BHP now plans to use a closed loop cooling system in which the cooling water would (most of the time) be recirculated between the diesel engines and the

submerged combustion vaporizer (SCV) water baths. In essence, excess heat from the diesel engines would be used to help regasify the liquefied natural gas (LNG). BHP believes it would still be necessary to discharge seawater used for cooling about 8 days per year. The revised estimate for the annual volume of cooling water discharges is 61 million gallons per year, which is a substantial decrease from the previous estimate of 3.4 million gallons per day.

The modified draft permit would limit the annual volume of cooling water discharges to 61 million gallons per year based on the revised design. Reporting of the monthly discharge volume (and annual total) would also be required. These requirements have been included in Part I.A.5 of the modified draft permit.

The modified draft permit also includes a limit on the maximum temperature for the cooling water discharge (20° F above ambient), as well as a maximum increase of 4° F above ambient 1,000 feet down current from the discharge point, which are values specified in the California Thermal Plan. The Thermal Plan applies in State waters. Some commenters also argue that the provisions of the Deepwater Port Act necessitate compliance with the Thermal Plan even though the Cabrillo Deepwater Port would be located in Federal waters. Region 9 invites comment on this issue. A report prepared by BHP for the modified project¹ showed that under certain oceanic current conditions, the discharges would have a reasonable potential to cause an exceedance of one of the temperature criteria in the Thermal Plan, specifically, that water temperatures not exceed 4° F above ambient at 1,000 feet from the discharge. Further, the original permit application had indicated that the cooling water discharge (at the outfall) would be 28.8° F above ambient, a higher temperature than would be allowed under another of the temperature criteria in the Thermal Plan. To ensure compliance with the Thermal Plan, if applicable, Region 9 developed both limits in the modified draft permit. Region 9 invites comments on the substantive limits as it considers the legal question presented by the commenters. Monitoring for temperature at the outfall (and the ambient ocean temperature) would be required on each day of discharge to demonstrate compliance with the maximum temperature at the outfall. Modeling using EPA's PLUMES model (or receiving water sampling) would be required on each day of discharge to demonstrate compliance with the temperature limit 1,000 feet from the discharge point. Region 9 also invites comments on this monitoring protocol.

The BHP report noted above indicates that in addition to chlorine, copper would be used in cooling water for anti-fouling purposes. The initial draft permit had already required monitoring for total residual chlorine in cooling water. The modified draft permit would require monitoring for copper as well (once for each day of discharge for both copper and chlorine). The monitoring data would be used to evaluate the reasonable potential of the discharges to cause or contribute to exceedances of applicable water quality criteria at the edge of the 100-meter mixing zone. The permit may also be reopened and modified to establish additional effluent limitations and monitoring requirements based on the monitoring results. Similar

¹Worley Parsons, Report: Seawater Cooling Elimination, BHPB Document No. WCLNG-BHP-DEO-UR-00-311-0, June 19, 2006.

requirements were included in Region 9's 2004 general NPDES permit for offshore oil and gas facilities (69 Fed. Reg. 56761, September 22, 2004). The applicable water quality criteria that Region 9 would use to determine whether to impose a water quality-based effluent limit for copper and chlorine would be the more stringent of EPA chronic marine water quality criteria, or California Ocean Plan (COP) objectives (6-month median). As it does regarding the thermal limitations based on comments received on the earlier proposal, Region 9 invites additional comment on these permit conditions. The 2004 general permit for offshore oil and gas facilities also provides a means for comparing EPA criteria and COP objectives (which are expressed in different terms) to determine which is more stringent.

Commenters on the April 21, 2006 draft permit recommended that additional baseline data be gathered prior to commencement of cooling water and ballast water discharges to characterize the distribution and abundance of phytoplankton, zooplankton, meroplankton and ichthyoplankton at the location of the Cabrillo Deepwater Port. The data would allow an improved assessment of potential losses as a result of entrainment in cooling water and ballast water, and whether additional mitigation may be appropriate. The commenters noted that although some information is available through the California Cooperative Oceanic Fisheries Investigations (CalCOFI) Program, the available information is not sufficiently site-specific. Based on these comments, the modified draft permit would require a field sampling study to gather the necessary additional data. To capture seasonal variations, the data gathering period identified in the modified draft permit would be a minimum of one year. The modified draft permit would also require that the study results be submitted to Region 9 prior to initiation of any cooling water or ballast water discharges, and a detailed workplan would also be submitted to Region 9 for approval prior to commencement of the study. The permit would further provide that the permit may be reopened and modified to include additional effluent limitations and/or monitoring requirements based on the results of the study to ensure no unreasonable degradation of the marine environment.

A commenter also recommended monitoring of cooling water and ballast water to assess impingement and entrainment losses. In response, the modified draft permit would require the submittal of a monitoring plan six months prior to initiation of cooling water or ballast water discharges to determine such losses. The monitoring must be sufficient to measure seasonal and diurnal variations in losses, and must be approved by EPA prior to implementation. Consistent with the commenter's recommendation, the permittee may also request a reduction or elimination of the monitoring program after one year based on the results of the first year.

Lastly, the monitoring frequencies for certain discharges have been increased in the modified draft permit per a commenter recommendation. For SCV wastewater discharges, the pH monitoring frequency was increased from weekly to daily. For sanitary wastes, the monitoring frequency for total residual chlorine was increased from monthly to daily. Also, the modified draft permit would require a once/quarter estimate of the brine concentration for the desalinization unit discharge.

The attached fact sheet for the April 21, 2006 draft permit includes an analysis of the potential environmental effects of the proposed discharges. Region 9 had tentatively concluded that the discharges would not cause unreasonable degradation of the marine environment and would be consistent with the requirements of the Clean Water Act and other legal requirements. Region 9 believes this conclusion would also be valid for the discharges authorized by the modified draft permit, particularly given the reduction in the volume of the proposed cooling water discharges.

Commenters on the April 21, 2006 draft permit raised numerous other issues in addition to those discussed above. Region 9 is still considering whether additional modifications of the permit may be appropriate in response to those comments. The final permit decision for the facility will include Region 9's responses to the other issues.

3. Extended Comment Period

All interested persons are invited to submit written comments on the proposed modified draft permit with supporting evidence by the close of the comment period which ends on October 23, 2006. Comments should be sent to Lisa Honor, U.S. EPA, Region 9 (WTR-5), 75 Hawthorne Street, San Francisco, CA 94105. Comments may also be sent by email to: honor.lisa@epa.gov. After the close of the extended comment period, Region 9 will prepare a response to comments (addressing comments received during the initial comment period and the extended comment period), and will then take final action on the permit application.

4. For Additional Information

Additional information or copies of the modified draft permit (and initial draft permit) and fact sheet are available by contacting the following: Eugene Bromley, CWA Standards and Permits Office, Water Division (WTR-5), EPA, Region 9, 75 Hawthorne Street, San Francisco, CA 94105-3901, telephone (415) 972-3510, or email at: bromley.eugene@epa.gov. These documents are also available on Region 9's website at: <http://www.epa.gov/region9/water/npdes/pubnotices.html>.

Attachment - Fact Sheet for the April 21, 2006 Draft Permit

FACT SHEET
NPDES PERMIT NO. CA0110993
BHP BILLITON LNG INTERNATIONAL INC.
CABRILLO DEEPWATER PORT PROJECT

1. Background

BHP Billiton LNG International Inc. has applied to the U.S. Environmental Protection Agency (EPA), Region 9 for a National Pollutant Discharge Elimination System (NPDES) permit to discharge various wastewaters from the proposed Cabrillo Deepwater Port. The Cabrillo Deepwater Port is a proposed importation terminal for liquefied natural gas (LNG) which would be delivered to the terminal via carrier ships (see Figure 1). The terminal would consist of a floating storage and re-gasification facility located approximately 14 miles offshore of Ventura County, California at the following coordinates: latitude - 33° 51.52', and longitude - 119° 02.02' (see Figure 2). The re-gasified natural gas would be delivered via two new pipelines to the natural gas transmission system operated by the Southern California Gas Company. Section 301(a) of the Clean Water Act (CWA) prohibits the discharge of pollutants to surface waters except in compliance with the terms and conditions of an NPDES permit. Region 9 is proposing to issue an NPDES permit for the discharges from the proposed LNG import terminal.

2. Types of Discharges Authorized

The various wastewaters generated at the LNG import terminal and the discharges which would be authorized by the proposed permit are discussed below:

Submerged Combustion Vaporizer (SCV) Wastewater - the LNG is re-gasified by passing it through pipes which are submerged in a heated water bath (see Figure 3). The water bath is heated by bubbling natural gas combustion exhaust through the water bath. The SCV wastewater discharge results from the condensation of water vapor (one of the principal combustion products) in the water bath. The volume of the wastewater is estimated to average approximately 199,700 gal/day. Soda ash, NaOH, would be used to control the pH of the wastewater (within the range of 6-9 standard units) which would otherwise become acidic due to NO_x from the combustion exhaust dissolving in the water bath. The temperature of the water bath would be maintained at 86° F.

The SCV wastewater would not be discharged directly from the water bath to the ocean. More than 95% of the water (about 190,000 gal/day) would be combined with seawater and directed into the ballast tanks when LNG was being re-gasified and sent ashore. The ballast water (discharge 001 below), including SCV wastewater, would be discharged when LNG was being received at the import terminal from a carrier ship. The remainder of the SCV wastewater

would be treated and stored in fresh water storage tanks onboard the import terminal and subsequently used as deck washdown water (component of discharge 002), or to supplement the supply of potable water on the import terminal.

Discharge 001 - Ballast Water. This is primarily seawater added to or removed from facility ballast tanks to maintain proper draft and trim of the facility when LNG loads are being received or sent to shore. When an LNG carrier ship arrives (which would occur about 2-3 times per week), approximately 15 to 20 million gallons of ballast water would be discharged. As noted above, approximately 190,000 gal/day of SCV wastewater is directed along with seawater into the ballast tanks. However, with 30 million gallons of ballast water or more discharged per week, the SCV wastewater is less than 5% of the total discharge. No additives (such as anti-fouling agents) would be added to the discharge.

Discharge 002 - Deck Drainage. This discharge consists of storm water runoff and washdown water from the facility. The total deck surface area of the facility would be 18,567 square meters. The rainfall at the facility location averages 13.9 inches per year, resulting in an average discharge rate for storm water runoff of 1.73 million gallons per year. Approximately 2,500 square meters of the deck of the facility would contain equipment such as cranes and other equipment which may result in the storm water runoff from the area becoming contaminated with oil. If so, the runoff would be treated in an oil/water separator prior to discharge. A continuous oil-in-water monitor would be used to test the discharge for any contamination. Runoff from other areas of the facility would drain directly to the ocean.

The volume of washdown water is estimated to be 264,000 gal/year. This discharge would also be monitored for oil and if contaminated, it would be treated in the oil/water separator prior to discharge. As noted above, SCV wastewater is used as the washdown water.

Discharge 003 - Gray Water. This refers to wastewater discharged from facility living quarters such as water from sinks, showers and galleys. The volume of this discharge is estimated to be approximately 1,257 gal/day. The discharge is treated using filtration to remove particulate matter and UV oxidation to control dissolved organic materials.

Discharge 004 - Sanitary Wastes. This refers to human body waste discharged from toilets and urinals located on the facility. The volume of the discharge is estimated to be 1,368 gal/day. The discharge is planned to be treated in a marine sanitation device (MSD) approved by the U.S. Coast Guard prior to discharge.

Discharge 005 - Desalination Unit Wastes. This discharge is brine generated from the process of creating fresh water from saltwater. The volume of this discharge is estimated at approximately 2 million gal/year.

Discharge 006 - Non-contact Cooling Water. This is seawater which circulates across power generators for the purpose of cooling. Standard marine type anti-fouling additives (such as hypochlorite, or similar additives commonly used in marine vessels) would be added to the

cooling water intake for circulation prior to discharge. The volume of the discharge is estimated to average about 3.4 million gal/day, with a temperature approximately 16° C above the ambient ocean temperature. No treatment of the discharge is proposed.

Discharge 007 - Fire Control System Test Water. This is seawater which is discharged during the testing of fire protection equipment. No additives (such as anti-fouling agents) would be added to the test water prior to discharge. Several tests are needed during a given year; the total volume of all the discharges is estimated at 4.9 million gal/year.

Discharge 008 - Bilge Water. This is water which may accumulate in the bilge of the facility from sources such as leaks in the cooling system or washdown operations. Like deck drainage potentially contaminated with oil, bilge water discharges would be continuously monitored for oil and treated in the oil/water separator prior to discharge if found to be contaminated. The volume of this discharge is estimated at 240,000 gal/year.

3. Basis for Draft Permit Conditions

Congress enacted the CWA "to restore and maintain the chemical, physical and biological integrity of the nation's waters." CWA § 101(a), 33 U.S.C. § 1251(a). To meet this objective, Congress declared a national goal of eliminating the discharge of pollutants into the nation's waters, id. § 1251(a)(1), and prohibit the "discharge of any pollutant" except in compliance with the CWA's provisions. One of these provisions is CWA § 402, under which discharges can be authorized by an NPDES permit. NPDES permitting requirements apply to regulated discharges even when made to waters seaward of the territorial sea (i.e., in the "ocean"). See CWA § 403 (the ocean discharge criteria) and CWA §§ 502(9), (10) and (12) (definitions of "contiguous zone," "ocean" and "discharge of a pollutant"). See also Presidential Proclamation 5030 (March 10, 1983) (Exclusive Economic Zone of the United States of America).

One of the CWA's major strategies in making "reasonable further progress toward the national goal of eliminating the discharge of all pollutants" requires discharge limitations, based not on the impact of the discharge on receiving waters, but instead upon the capabilities of the technologies available to control those discharges. The technology-based limits aim to prevent pollution by requiring dischargers to install and implement various forms of technology designed to reduce the pollutants discharged into the nation's waters. Where technology-based limitations alone are insufficient to attain or maintain applicable water quality standards, NPDES permits also include water quality-based discharge limitations.

EPA largely establishes technology-based controls in regulations known as effluent limitations guidelines ("effluent guidelines"). EPA establishes these regulations for specific industrial sectors after considering an in-depth analysis of each industrial sector. However, EPA has not promulgated national, technology-based effluent guidelines for the LNG import terminal industrial sector. In the absence of applicable effluent guidelines for the discharge or pollutant, technology-based limitations are determined by the permit writer on a case-by-case basis, in

accordance with the statutory factors specified in CWA §§ 301(b)(2) and 304(b), 33 U.S.C. §§ 1311(b)(2), (3), 1314(b), 1342(a)(1). These site-specific, technology-based effluent limitations reflect the best professional judgment (BPJ) of the permit writer under 40 CFR 125.3(c)(2) taking into account the same statutory factors EPA would use in promulgating a national categorical rule, but considering unique factors relating to the applicant.

NPDES permit writers can develop BPJ controls using one of two methods: (1) transferring numerical limits from an existing source (e.g., from other existing effluent guidelines or a similar NPDES permit); or (2) deriving new numerical limits.¹ Region 9 reviewed effluent guidelines for the 56 industrial point source categories and found that some of the wastewaters proposed for discharge under this NPDES permit are similar to wastewaters regulated by existing effluent guidelines (e.g., deck drainage, which is regulated at 40 CFR Part 435, Subpart A (Offshore Subcategory) of the Oil and Gas Extraction Point Source Category). However, with respect to LNG re-gasification wastewater discharges, Region 9 finds that these wastewaters would not be similar to other wastewaters regulated by effluent guidelines, would be generated from a different industrial process, and that site-specific technology-based limitations would be more appropriate for this facility.

The NPDES regulations at 40 CFR 125.3 provide that permits developed on a case-by-case basis must consider: (1) the appropriate technology for the category of point sources for which the applicant is a member, based on all available information; and (2) any unique factors related to the applicant. Region 9 used facility specific information in determining BPJ controls for wastewater discharges from the re-gasification process. In addition to specific references in this fact sheet, major references used for the analysis include the NPDES permit application and supporting materials submitted by BHP Billiton and the United States Coast Guard (USCG) Deepwater Port Licensing Information Docket No. 16877. Region 9 also considered the recent guidance from EPA's Office of Water to EPA Regional Administrators on the importance of considering non-water quality environmental impacts and other appropriate factors, as provided in the CWA, including factors unique to the Cabrillo Port LNG import terminal.² In developing this NPDES permit, EPA Region 9 also carefully evaluated design elements, pollution prevention practices, and operating methods that were proposed by the NPDES permit applicant.

The CWA also gives the Agency authority to consider process changes in order to evaluate technology-based controls of industrial wastewater. Indeed, for the primary industrial process at the Cabrillo Port – the re-gasification process to convert liquified natural gas into its vapor phase – the permit applicant here considered different processes because the industrial process also effectively represents a pollutant control process. Technology-based controls in

¹U.S. EPA, 1996. "NPDES Permit Writer's Manual," Page 71, EPA-833-B-96-003, December 1996.

²Memorandum from Benjamin H. Grumbles, Assistant Administrator, Office of Water to EPA Regional Administrators, "Deepwater Liquefied Natural Gas Terminals and Clean Water Act Technology-Based Limitations and Conditions", April 3, 2006.

NPDES permits are performance-based measures. EPA incorporates technology-based controls in NPDES permits that correspond to the application of an identified technology (including process changes), but does not require dischargers to install the identified technology. Therefore, EPA leaves to each facility, including the Cabrillo Port LNG import terminal, the discretion to select the technology design and process changes necessary to meet the discharge limitations and standards specified in the NPDES permit.

Section 403 of the CWA requires that an NPDES permit for a discharge into marine waters located seaward of the inner boundary of the territorial seas be issued in accordance with guidelines for determining whether the discharge will cause unreasonable degradation of the marine environment. EPA has promulgated regulations implementing Section 403 of the CWA at 40 CFR Part 125, Subpart M (Ocean Discharge Criteria Regulations). Section 316(b) of the CWA requires that the location, design, construction and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact. Section 308 of the CWA and NPDES regulations at 40 CFR 122.44(i) and 122.48 provide for monitoring and reporting requirements in NPDES permits to ensure compliance with the permit limitations and provide information on discharge activities to the permitting authority.

A. Technology-Based Effluent Limitations

As noted above, in the absence of promulgated guidelines for the discharges from the LNG import terminal, permit conditions must be established using BPJ procedures. The Region's BPJ analysis for the LNG import terminal evaluated limits to meet the following technology-based controls: Best Practicable Control Technology Currently Available (BPT), Best Conventional Pollutant Control Technology (BCT), and Best Available Technology Economically Achievable (BAT). In summary, these controls are described below.

Best Practicable Control Technology Currently Available (BPT) - The first level of technology-based standards generally based on the average of the best existing performance facilities within an industrial category or subcategory.

Best Conventional Pollutant Control Technology (BCT) - Technology-based standard for the discharge from existing industrial point sources of conventional pollutants including biochemical oxygen demand (BOD), total suspended solids (TSS), fecal coliform, pH, and oil & grease.

Best Available Technology Economically Achievable (BAT) - The most appropriate means available on a national basis for controlling the direct discharge of toxic and non-conventional pollutants to navigable waters. BAT effluent limits represent the best existing performance of treatment technologies that are economically achievable within an industrial point source category or subcategory.

The proposed permit incorporates BPT, BCT, and BAT effluent limitations based on BPJ for the proposed discharges as discussed below.

1. Discharge 001 (Ballast Water - Combination of SCV Wastewater and Seawater)

As previously stated, Region 9 does not believe that the SCV wastewater would be similar to other wastewaters regulated by effluent guidelines, would be generated from a different industrial process, and that site-specific technology-based limitations would be more appropriate controls. In setting BPJ limitations, Region 9 considered the following statutory factors for BPT:

- Total cost of application of technology in relation to the effluent reduction benefits to be achieved from such application;
- The age of equipment and facilities involved;
- The process employed;
- The engineering aspects of the application of various types of control techniques;
- Process changes; and
- Non-water quality environmental impact (including energy requirements).

These factors are specified in CWA § 304(b) and 40 CFR 125.3(d). EPA may define BPT effluent limits for conventional, toxic, and non-conventional pollutants.

Region 9 finds that the use of closed-loop re-gasification (i.e., SCV) is the BPJ technology option for these wastewaters and is preferred over the use of open-loop re-gasification (e.g., open rack vaporization) for reasons similar to those identified by BHP Billiton. Specifically, BHP Billiton noted that the “use of this large quantity of seawater [associated with open-loop re-gasification] raises concerns over entrainment and impingement of marine species, thermal plumes, turbidity, treated water discharge and noise.”³ Moreover, BHP Billiton also noted that the “use of SCV would produce air emissions that could be minimized by emission control technology.”⁴ EPA agrees that use of a closed-loop re-gasification would result in reduction of entrainment and impingement of aquatic organisms as well as discharges of significantly less pollutants for this LNG import terminal, in terms of mass, toxicity, and adverse temperature effects, compared to entrainment and impingement impacts and pollutant discharges that would result from use of an open-loop re-gasification system.

Region 9 considered the relevant statutory technology-based factors listed above and finds that use of SCV is an appropriate pollutant control technology basis for the control of wastewater pollutants in re-gasification wastewater from this LNG import terminal.

³Cabrillo Port Application for Deepwater Port License, Page 5-8, <http://dmses.dot.gov/docimages/p77/265927.doc>, January 21, 2004.

⁴Ibid. Page 5-8. In its December 2005 Minor New Source Review Construction Permit Application, BHP Billiton proposes to utilize burner technology that will ensure a NOx emission rate from the SCVs that is equivalent to 20 ppm NOx at 3% O2 (3-hour average), in accordance with Ventura County Air Pollution Control District requirements for Best Available Control Technology.

Finally, Region 9 reviewed and considered non-water quality environmental impacts (including energy requirements) for this proposed LNG import terminal and found these potential impacts to be acceptable. Based on a review of the air quality modeling and impacts presented for the project as proposed with SCV, it is Region 9's assessment that the emissions from the project do not change the conclusion that the use of closed-loop re-gasification (i.e., SCV) is the preferred BPJ technology option for these wastewaters.

With regards to energy usage, for the closed-loop option, approximately 1.5% of the natural gas produced would be used to vaporize the LNG. This energy requirement is within the range of the energy requirements of other EPA technology-based CWA decisions. In particular, EPA compared the 1.5% energy requirement against the range of energy requirements identified in the 316(b) Phase I new facility rule for EPA's selected technology-based option (closed-loop, recirculating cooling system) for cooling water intake structures. EPA identified in the 316(b) Phase I new facility rule that national average annual energy requirements comparisons of wet tower (closed-loop, recirculating cooling system) versus once-through (open-loop) cooling ranged from 0.4% (combined-cycle facilities) to 1.7% (fossil fuel and nuclear facilities).⁵ EPA stated that the annual 1.65% energy penalty for facilities to install cooling towers to comply with the rule did "not constitute a significant energy effect" for such facilities (66 Fed. Reg. 65333, December 18, 2001). Therefore, the energy requirement of approximately 1.5% for application of SCV re-gasification technology at the Cabrillo Port LNG import terminal is consistent with previous EPA decisions on energy effects and does not constitute a significant energy effect.

The NPDES permit applicant provided the following estimates of potential pollutants in the SCV wastewater: sodium - 50 mg/l; total dissolved solids (TDS) - 485 mg/l; nitrate-N - 1.13 mg/l; and pH within the range of 6-9 standard units. Of these pollutants, only pH and nitrate-N need a BPJ analysis given that the sodium and TDS discharged are trivial compared to the ambient concentration in marine waters. Region 9 notes that one of the most common methods for removal of nitrate-N is through biological nutrient removal. Specifically, denitrification reduces nitrate plus nitrite to nitrogen gas and removes the nitrogen from the water. Given space constraints at this facility, biological nutrient removal is not likely an available technology for this offshore location. Consequently, Region 9 only proposes to limit the pH in this wastewater discharge. Region 9 identified the technology-basis for pH control (i.e., use of soda ash to control the pH of the discharge) and is proposing a pH limit for this wastewater within the range of 6-9 standard units. This limit would apply to SCV wastewater prior to mixing with seawater in the ballast tank and weekly monitoring of the SCV wastewater would be required to demonstrate compliance with the limit. Region 9 believes these effluent limits and monitoring requirements would be appropriate to ensure proper operation of the facility and would be in accord with 40 CFR 122.45(h) which provides for such requirements for internal wastestreams.

a. Free Oil

⁵U.S. EPA, Technical Development Document for the Final Regulations Addressing Cooling Water Intake Structures for New Facilities, EPA-821-R-01-036, Table 3-1, November 2001.

The proposed permit would also prohibit the discharge of free oil in discharge 001 as a whole, meaning that the discharges must not cause a film or sheen or discoloration on the surface of the receiving water. This limit was derived from the BCT/BAT effluent limitations guidelines for the offshore oil and gas industry which prohibit free oil in discharges of deck drainage. In the recent reissuance of Region 9's general NPDES permit for offshore oil and gas facilities, Region 9 extended this requirement to certain other miscellaneous discharges from offshore platforms which could potentially include free oil, including ballast water (69 Fed. Reg. 56761, September 22, 2004). Given the similarity of the discharges from the offshore oil and gas facilities and the LNG import terminal, the proposed permit for the LNG import terminal would also prohibit free oil in ballast water discharges. The technology basis for this limitation is segregation of materials and best management practices to control the inadvertent release of hydraulic oils and other oleaginous materials into the SCV wastewater discharges and the seawater used for ballast. Visual observations of the receiving waters would be required daily during daylight hours to determine compliance with this limit.

b. Floating Solids and Foam

The proposed permit would also prohibit floating solids and foam in the receiving waters from discharge 001. This limit was derived from the BCT/BAT effluent limitations guidelines for the offshore oil and gas industry which prohibit these materials in discharges of domestic wastes. In the recent reissuance of Region 9's general NPDES permit for offshore oil and gas facilities, Region 9 extended this requirement to most discharges from offshore oil and gas facilities, including ballast water (69 Fed. Reg. 56761, September 22, 2004). Region 9 is proposing this requirement for the proposed LNG import terminal as well, given the similarity of the discharges from the oil and gas facilities and the LNG import terminal. Visual observations of the receiving waters in the vicinity of the discharges must be conducted each day during daylight hours to monitor compliance with this limit.

2. All Other Wastewater Discharges (Discharges 002 through 008)

In developing the effluent limitations for the remaining wastewater discharges (discharges 002 through 008), Region 9 considered the guidelines which EPA promulgated on March 4, 1993 (58 Fed. Reg. 12454) for the Offshore Subcategory of the Oil and Gas Extraction Point Source Category (40 CFR Part 435, Subpart A). Discharges 002 through 008 from the proposed LNG import terminal are similar to discharges from a typical offshore oil and gas facility (such as deck drainage, gray water and sanitary wastes). In addition, the location of the LNG import terminal and opportunities for pollution control are similar. Consequently, Region 9 proposes to transfer numeric limits from the Offshore Subcategory of the Oil and Gas Extraction Point Source Category to similar wastewaters from the proposed LNG import terminal (i.e., discharges 002 through 008).

a. Free Oil

The proposed permit would prohibit the discharge of free oil in discharges 002 (deck drainage) and 008 (bilge water) from the proposed LNG import terminal. As in the case of ballast water discussed above, this limit was derived from the BCT/BAT effluent limitations guidelines for deck drainage discharged from offshore oil and gas facilities. In the recent reissuance of Region 9's general NPDES permit for offshore oil and gas facilities, Region 9 extended this requirement to bilge water discharges (69 Fed. Reg. 56761, September 22, 2004). The proposed permit for the LNG import terminal would also prohibit free oil in deck drainage and bilge water discharges, given the similarity of the discharges from the offshore oil and gas facilities and the LNG import terminal. Visual observations of the receiving waters would be required daily during daylight hours to determine compliance with this limit.

b. Residual Chlorine

For sanitary discharges (discharge 004), the proposed permit includes a requirement for a total residual chlorine (TRC) concentration in the discharges of at least 1 mg/l (and maintained as close as possible to this concentration). This limit was derived from the BCT effluent limitations guidelines for offshore oil and gas facilities continuously manned by ten or more persons. The purpose of the chlorine is to control fecal coliform in the discharge. The effluent guidelines include an alternate limit (which is no discharge of floating solids) for facilities intermittently manned, or continuously manned by nine or fewer persons. However, it is expected that the Cabrillo Port LNG import terminal would be continuously manned by ten or more persons and therefore the proposed permit includes the effluent guideline for offshore oil and gas facilities with comparable staffing. A maximum TRC concentration of 10 mg/l is also proposed for the permit to limit potential adverse effects from the chlorine. Region 9 has included this same limit in permits for offshore oil and gas facilities and believes the limit is appropriate for the LNG import terminal as well. Monthly monitoring is required to demonstrate compliance with the TRC limits for the discharge.

The use of an MSD that complies with pollution control standards and regulations under Section 312 of the CWA would constitute compliance with the effluent limits and monitoring requirements for TRC in discharge 004. This is consistent with Region 9's permit requirements for offshore oil and gas facilities. Region 9 believes that requirements developed under Section 312 would also constitute appropriate BAT/BCT requirements for an MSD. An MSD certified by the U.S. Coast Guard under Section 312 of the CWA is at least planned for the LNG import terminal.

c. Floating Solids and Foam

The proposed permit would prohibit floating solids and foam in the receiving waters from discharge 003 and discharges 005 through 008 from the proposed LNG import terminal. These limits for floating solids and foam were derived from the BCT/BAT effluent limitations guidelines for the offshore oil and gas industry which prohibit these materials in discharges of domestic wastes. In the recent reissuance of Region 9's general NPDES permit for offshore oil and gas facilities, Region 9 extended this requirement to most discharges from the offshore oil

and gas facilities, including discharges which are similar to discharge 003 and discharges 005 through 008 from the proposed LNG import terminal. Given this similarity, the proposed permit for the LNG import terminal would also include this requirement for discharge 003 and discharges 005 through 008. Visual observations of the receiving waters in the vicinity of the discharges must be conducted each day during daylight hours to monitor compliance with this limit.

d. Technology-Based Impingement and Entrainment Controls for Cooling Water Intake Structures

Section 316(b) of the CWA requires that the location, design, construction and capacity of cooling water intake structures reflect the application of the best technology available to minimize adverse environmental impacts. EPA is promulgating regulations implementing section 316(b) in three phases. Phase I covers new sources meeting certain criteria and was promulgated in December 2001 (66 Fed. Reg. 65256). Phase II addresses existing electric generating plants and was promulgated in July 2004 (69 Fed. Reg. 41576). Phase III was proposed on November 24, 2004 (69 Fed. Reg. 68444) and addresses certain existing facilities and includes new offshore oil and gas extraction facilities. EPA did not propose specific regulations for new offshore LNG import terminals in Phase I, II or III. See also Memorandum from Linda Y. Boornazian and Mary T. Smith, “Clarification of CWA § 316(b) Requirements for Liquefied Natural Gas (LNG) Import Terminals,” p.3 (April 22, 2004)(explaining inapplicability of Phase I rules to offshore LNG facilities).

EPA did, however, consider new offshore LNG import terminals for regulation in Phase III. As noted in EPA’s Technical Development Document (TDD) for the Phase III regulations (EPA 821-R-04-015), November 2004, only a small number of offshore LNG import terminals were expected to fall within the scope of the Phase III regulations; as such, EPA elected to not develop specific Phase III regulations for these facilities.

The TDD anticipates that EPA would develop permit requirements for cooling water intake structures at new offshore LNG import terminals on a case-by-case basis based on BPJ, as provided by 40 CFR 125.80(c). See 316(b) Phase III TDD, Page 3-192. The TDD also provides information on the types of requirements that would likely be appropriate for new offshore LNG import terminals. Based on information in the TDD and regulation at 40 CFR 125.80(c), Region 9 is proposing the following requirements for the Cabrillo Port LNG import terminal:

i. Intake Velocity

The proposed permit would require that the cooling water intake structure be designed to ensure a maximum through-screen design intake velocity not to exceed 0.5 feet/second. The proposed Phase III regulations include this requirement for new offshore oil and gas extraction facilities. Additionally, as noted in the TDD, other applicants for offshore LNG import terminals seeking Deepwater Port Act licenses have proposed cooling water intakes to ensure a maximum

through-screen design intake velocity not to exceed 0.5 feet/second.⁶ Given the similarity of location, design, construction and capacity of these other cooling water intake structures (e.g. both industrial sectors use sea chests for cooling water withdrawals above 2 MGD), Region 9 believes that a maximum through-screen design intake velocity not to exceed 0.5 feet/second is an appropriate impingement control requirement for this proposed permit. The proposed permit would require that compliance with the velocity limit be demonstrated either by submitting design calculations for the intake structure or by velocity monitoring conducted at the initial start-up of the facility. Design calculations showing compliance would be due to EPA prior to facility start-up; velocity monitoring results would be due with the quarterly discharge monitoring report (required by Part I.D of the permit) which covers the period during which the monitoring activities occur.

ii. Intake Structure Design

The proposed permit would require that the cooling water intake structure be designed and constructed using the best technology available to minimize adverse environmental impacts due to impingement and entrainment of marine organisms. The 316(b) Phase III TDD provides guidance on how to evaluate technology recommendations for facilities like the proposed LNG import terminal, which use sea chests (which are cavities in the hull of a vessel which are exposed to the ocean; water is drawn into the vessel through the cavity). For these cooling water intake structures, the TDD identifies the potential use of flat panel wedgewire screens for the sea chests surface water intake structures in order to prevent entrainment, and horizontal flow diverters in order to prevent impingement by changing the direction of flow through the sea chest. Wedgewire screens are designed to reduce entrainment by physical exclusion and by exploiting hydrodynamics. Physical exclusion occurs when the mesh size of the screen is smaller than the organisms susceptible to entrainment; based on a review of wedgewire screen performance by EPA's Office of Water, Region 9 is proposing a maximum screen slot width of 1.75 mm (email from Carey Johnston to Region 9 dated April 18, 2006). Region 9 is requiring the use of these impingement and entrainment control technologies based on the potential for entrainment/impingement reductions.

The proposed permit would also require that a description of the intake structure design be submitted to EPA prior to start-up of the facility. The permit further provides that the permit may be reopened and modified to establish additional requirements if, based on the submitted information, Region 9 determines that the discharges may cause unreasonable degradation of the marine environment or the intake design does not meet the minimum technology requirements of the Clean Water Act.

⁶See CWA Section 316(b) Phase III TDD, Pages 3-167 to 3-192, <http://www.epa.gov/waterscience/316b/ph3.htm>.

B. U.S. Coast Guard Regulations at 33 CFR 151.73

Under the Act to Prevent Pollution from Ships, which domestically implements Annex V of the International Convention for the Prevention of Pollution from Ships, the U.S. Coast Guard has issued regulations at 33 CFR 151.73 to control the disposal of garbage from fixed or floating platforms, including facilities such as the proposed LNG import terminal. The regulations apply to all such facilities when in navigable waters of the U.S. or within the 200 mile Exclusive Economic Zone. The regulations prohibit the discharge of garbage (as defined at 33 CFR 151) within 12 nautical miles of the nearest land. Beyond 12 nautical miles from the nearest land, the discharge of food wastes that are ground so as to pass through a 25 millimeter mesh screen is permitted.

These U.S. Coast Guard regulations are incorporated into the BCT effluent limitations guidelines for offshore oil and gas platforms, and Region 9 is also proposing to incorporate the regulations into the proposed permit for the LNG import terminal. The LNG import terminal would be located about 12.2 nautical miles from the nearest land; as such, the requirements pertaining to facilities beyond 12 nautical miles have been incorporated into the permit (Part I.B of the permit). The term “garbage,” as it is applied here, includes operational and maintenance wastes. Further clarification of wastes covered under these regulations can be found at 33 CFR 151.

C. Ocean Discharge Criteria Regulations

Section 403 of the CWA and the Ocean Discharge Criteria Regulations (40 CFR Part 125, Subpart M) are intended to "prevent unreasonable degradation of the marine environment and to authorize imposition of effluent limitations, including a prohibition of discharge, if necessary, to ensure this goal" (49 Fed. Reg. 65942, October 3, 1980).

If EPA determines that a discharge will cause unreasonable degradation, an NPDES permit will not be issued. If a determination of unreasonable degradation cannot be made because of a lack of sufficient information, EPA must then determine whether a discharge will cause irreparable harm to the marine environment and whether there are reasonable alternatives to on-site disposal. To assess the probability of irreparable harm, EPA is required to make a determination that the discharger, operating under appropriate permit conditions, will not cause permanent and significant harm to the environment. If data gathered through monitoring indicate that continued discharge may cause unreasonable degradation, the discharge must be halted or additional permit limitations established.

Under the Ocean Discharge Criteria Regulations, the determination of unreasonable degradation is based on the following ten factors: 1) quantities, composition, and potential for bioaccumulation or persistence of the pollutants discharged; 2) potential transport of such pollutants; 3) the composition and vulnerability of biological communities exposed to such pollutants; 4) the importance of the receiving water area to the surrounding biological community; 5) the existence of special aquatic sites; 6) potential impacts on human health; 7)

impacts on recreational and commercial fishing; 8) applicable requirements of approved Coastal Zone Management Plans; 9) marine water quality criteria developed pursuant to Section 304(a)(1) of the CWA; and 10) other relevant factors. The evaluation of proposed discharges assumes BAT and BCT effluent limitations are in place as required by the CWA.

A comprehensive analysis of the potential environmental impacts of the proposed project, including the proposed discharges, can be found in the recent draft environmental impact statement/environmental impact report (EIS/EIR) which was prepared jointly by the U.S. Coast Guard, the U.S. Maritime Administration and the California State Lands Commission.⁷ No significant environmental effects of the discharges were identified by the draft EIS/EIR, nor in a recent update (revised draft EIR) of the document prepared by the California State Lands Commission.⁸

EPA also recently prepared an Ocean Discharge Criteria Evaluation (ODCE)⁹ which evaluated discharges from offshore oil and gas facilities many of which, as noted previously, are similar to the proposed discharges from the LNG import terminal in terms of effluent characteristics and volume. The ODCE concluded that there would be no unreasonable degradation of the marine environment from the discharges from the oil and gas facilities. Furthermore, in the ODCE, EPA judged that the types of discharges which are common to offshore oil and gas facilities and the proposed LNG import terminal (such as deck drainage and gray water) are the discharges of least environmental significance.

1. Requirements for SCV Discharges (Component of Discharge 001)

As noted above, the draft EIS/EIR concluded that all discharges from the LNG import terminal, including SCV water, would not cause significant environmental impacts. As discussed below, Region 9 would concur with this conclusion.

The applicant provided the following estimates of potential pollutants in the SCV discharge: sodium - 50 mg/l; total dissolved solids (TDS) - 485 mg/l; nitrate-N - 1.13 mg/l; and pH within the range of 6-9 standard units. Region 9 would not expect unreasonable degradation of the marine environment from this discharge. Background sodium in the ocean averages about 10,000 mg/l which is much larger than the concentration in the proposed discharge; hence, no

⁷U.S. Coast Guard, U.S. Maritime Administration and California State Lands Commission, Draft Environmental Impact Statement/Environmental Impact Report for the Cabrillo Port Liquefied Natural Gas Deepwater Port, October, 2004.

⁸California State Lands Commission, Revised Draft Environmental Impact Report for the Cabrillo Port Liquefied Natural Gas Deepwater Port, March, 2006.

⁹U.S. EPA, Ocean Discharge Criteria Evaluation, South and Central California for NPDES Permit No. CAG280000, September 29, 2000.

unreasonable degradation would be expected from this constituent. Seawater TDS ranges between 30,000 to 40,000 mg/l, again much larger than the proposed discharge. Background nitrate-N varies with location, depth and season off the southern California coast; concentrations may be near zero near the surface and up to about 0.5 mg/l at depths of 500 meters (see data reports at www.CalCOFI.org). The draft EIS/EIR notes that a number of inland and coastal waterbodies in Ventura County (such as Calleguas Creek and Mugu Lagoon) have been designated as impaired by the California State Water Resources Control Board, with several pollutants including nitrogen cited as the causes of the impairments. However, open ocean waters where the LNG import terminal discharges would occur have not been designated as impaired despite the presence of discharges such as the Oxnard POTW effluent which discharges about one mile off the Ventura County coastline. According to the Southern California Coastal Water Research Project¹⁰, the annual loading of nitrate-N from the Oxnard POTW is about 47 metric tons/year, or over 100 times greater than the loading from the proposed LNG import terminal (which would be about 0.3 metric tons/year, based on a flow of 197,000 gal/day and a concentration of 1.13 mg/l). As such, Region 9 would not expect unreasonable degradation of the marine environment from the much smaller LNG discharges (monitoring of the SCV wastewater for nitrate-N would be required monthly, however, prior to mixing with seawater in the ballast tanks). The proposed LNG import terminal discharges of nitrate-N are even smaller in comparison to storm water runoff from Ventura County which averages over 400 times the annual loading from the LNG import terminal.¹¹

Region 9 would also not expect significant adverse environmental effects as a result of the elevated temperature of the SCV wastewater. As noted above, SCV wastewater is mixed (and thereby diluted) with a much larger volume of seawater in the ballast tanks prior to discharge. The temperature of the combined discharge would not differ significantly from background.

The pH of the proposed SCV wastewater at the LNG import terminal would be within the range of 6-9 standard units (and maintained with this range using soda ash). This is consistent with California Ocean Plan requirements and Region 9 believes it would be protective of the marine environment. The proposed permit does include an effluent limit for pH (6-9 standard units) and a monitoring requirement (once/week) to ensure proper operation of the pH control system. The draft EIS/EIR notes that the background pH of ocean waters off southern California is about 8.1 standard units.

¹⁰Steinberger, Andrea and Kenneth C. Schiff, Characteristics of Effluents from Small Municipal Wastewater Treatment Facilities in 2000, in: 2001-2002 Annual Report, Southern California Coastal Water Research Project, May, 2003.

¹¹Southern California Coastal Water Research Project, Pollutant Mass Emissions to the Coastal Ocean of California: Initial Estimates and Recommendations to Improve Stormwater Emission Estimates, Appendix A, Table 32, November 10, 2000.

As noted earlier, the nitrates in the SCV wastewater are the result of NO_x which is generated from the natural gas combustion dissolving in the water bath. The applicant did not provide any information whether other pollutants in the natural gas combustion exhaust might also dissolve in the SCV water bath and be discharged. The State of Georgia Department of Natural Resources¹², in analyzing potential air impacts from a similar facility, noted that the combustion of natural gas could result in a variety of toxic pollutants in the exhaust. Region 9 would not expect significant quantities of toxic pollutants to dissolve in the water bath given the brief period in which the exhaust gas would be in contact with the water bath. Nevertheless, to gather additional information on this matter, the proposed permit would require a priority pollutant scan for SCV wastewater (prior to mixing with seawater in the ballast tanks) approximately one month after initiation of discharges to test for the presence of priority toxic pollutants; test results would be due not later than three months after initiation of discharges. The list of priority toxic pollutants (126 in total) can be found at 40 CFR Part 423, Appendix A (the list is repeated in Appendix A of the proposed permit). The permit also includes a reopener clause which provides that the permit may be reopened to establish additional effluent limitations or additional monitoring requirements if the results indicate that the discharges may cause or contribute to an exceedance of the more stringent of either EPA marine water quality criteria (see EPA-822-R-02-047, November, 2002, as updated at 68 Fed. Reg. 75507 (December 31, 2003)), or California Ocean Plan (COP) objectives. Although the COP only applies to State waters (within three miles of the coast), Region 9 recently agreed to apply the more stringent of EPA recommended water quality criteria or COP objectives to one particular discharge (produced water) from offshore oil and gas facilities off southern California which, like the proposed LNG import terminal, are located beyond State waters (69 Fed. Reg. 56761, September 22, 2004). For consistency with this previous permit action (which was to address concerns from the California Coastal Commission), Region 9 is also proposing to apply the more stringent of EPA criteria or COP objectives to the SCV discharges from the proposed LNG import terminal. The criteria would be applied at the edge of the 100-meter mixing zone provided by the Ocean Discharge Criteria Regulations at 40 CFR 125.121.

2. Requirements for Chlorine in Cooling Water Discharges

As noted earlier, the permittee anticipates that an anti-fouling agent such as chlorine would be used in cooling water discharges (discharge 006). The proposed permit includes requirements for this discharge which are similar to requirements in Region 9's NPDES general permit for offshore oil platforms (69 Fed. Reg. 56761, September 22, 2004). Like the permit for the offshore oil platforms, the proposed permit for the LNG import terminal would require monitoring for total residual chlorine in the discharges once/month for the first 12 months of discharges. After the monitoring results have been submitted, Region 9 would evaluate whether the discharges would have the reasonable potential to cause exceedances of EPA marine water

¹²State of Georgia Department of Natural Resources, Prevention of Significant Air Quality Deterioration Review of Southern LNG's Expansion Project Located at Southern LNG's Elba Island LNG Terminal near Savannah, Georgia (Chatham County), October, 2002.

quality criteria for chlorine at the edge of the 100-meter mixing zone. The permit also would provide that the permit may be reopened and modified to established additional effluent limitations and monitoring requirements based on the monitoring results.

It should also be noted that for the general permit for offshore oil platforms, the California Coastal Commission did not require the more stringent of EPA or COP objectives for chlorine in cooling water. For consistency with the permit for the offshore oil platforms, the proposed permit for the LNG import terminal only would require compliance with the EPA recommended marine water quality criteria for chlorine and not the COP objective for chlorine.

The proposed permit would not authorize discharges of any anti-fouling agent other than chlorine. If the permittee desires to use a different anti-fouling agent, the permittee would need to provide information on the type and amount of the material and a permit modification would be needed to authorize the discharge of the alternate material.

3. Conclusions Concerning Compliance with the Ocean Discharge Criteria Regulations

Given the conclusions of the draft EIS/EIR, the revised draft EIR, the ODCE, and the above discussion, Region 9 believes that the proposed discharges would not cause unreasonable degradation of the marine environment, and would comply with the Ocean Discharge Criteria Regulations. However, this conclusion will be re-evaluated based on comments received on the proposed permit.

The Ocean Discharge Criteria Regulations require that the reopener clause found at 40 CFR 125.123(d)(4) be included in permits issued pursuant to 40 CFR 125.123(c) (no irreparable harm). As noted above, Region 9 concluded that no unreasonable degradation would occur; as such, the reopener clause is optional. Region 9 has included the reopener clause in the proposed permit (Part I.C) since the LNG import terminal is a new type of facility for California offshore waters and Region 9 has no previous experience with this type of facility. The reopener will ensure that any necessary permit modifications may be made if new information should unexpectedly indicate that the discharges could cause unreasonable degradation of the marine environment.

4. Standard Permit Conditions

NPDES Regulations at 40 CFR 122.41 and 122.42 require that certain standard conditions be included in all NPDES permits. These conditions have been included in Part II of the proposed permit.

5. Other Legal Requirements

A. Endangered Species Act

NPDES regulations at 40 CFR 122.49 require that Region 9 ensure compliance with other applicable Federal laws, including the Endangered Species Act (ESA), which may apply when issuing NPDES permits. Implementing regulations for the ESA (50 CFR Part 402) establish a process by which Federal agencies consult with one another to ensure that the concerns of both the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) (collectively “Services”) are addressed.

The potential effects of the discharges from the proposed LNG import terminal on listed threatened or endangered species were evaluated in the draft EIS/EIR which was noted previously. The effects of the proposed discharges were estimated to be less-than-significant for all marine species, listed or otherwise. The draft EIS/EIR also indicates that only fish or benthic organisms might be impacted; potential impacts might result from discharges of bilge water, gray water or deck drainage. With regards to fish and benthic organisms, the draft EIS/EIR further shows that the only listed endangered or threatened specie which might be present in the vicinity of the LNG import terminal where the proposed discharges would occur is the steelhead (*Oncorhynchus mykiss*); bocaccio (*Sebastes paucispinnis*) and Pacific rockfish (*Sebastes* spp.) are noted in the draft EIS/EIR as candidate species - however, an ESA consultation is not required for candidate species.

Region 9 recently evaluated the potential impacts of the discharges from offshore oil and gas extraction facilities off southern California on listed species. Separate biological assessments (BAs) were prepared to assess the potential impacts on listed species under the jurisdiction of both the USFWS¹³ and NMFS.¹⁴ The evaluations addressed discharges such as gray water and deck drainage which are common to both the LNG import terminal and offshore oil and gas facilities. Both BAs concluded that there would be no effect on listed species including the steelhead. Based on the information in the draft EIS/EIR and the BAs, Region 9 believes there would be no effect on listed species from the proposed discharges from the LNG import terminal; hence, Region 9 is not requesting a consultation with the Services. However, Region 9 is providing copies of the draft permit and fact sheet to the Long Beach office of NMFS and the Ventura Field Office of the USFWS for review and comment on Region 9’s conclusions concerning the effects of the discharges which would be authorized by the proposed permit.

¹³U.S. EPA, Biological Assessment for Endangered Species in Outer Continental Shelf Waters of South and Central California for Consultation with the United States Fish and Wildlife Service, February 10, 2000.

¹⁴U.S. EPA, Biological Assessment for Endangered Species in Outer Continental Shelf Waters of South and Central California for Consultation with the National Marine Fisheries Service, February 10, 2000.

It should also be noted that the U.S. Coast Guard has initiated an informal ESA consultation with the Services which will address the proposed project overall, including the proposed discharges (see Appendix G to the draft EIS/EIR). Region 9 will ensure that any special conditions which are identified through the consultation as necessary for the protection of any listed species will be included in the final permit and, if necessary, ensure an opportunity for public comment by interested parties.

B. Coastal Zone Management Act

The Coastal Zone Management Act (CZMA) provides that a Federal license or permit for activities affecting the coastal zone of a state may not be granted until a state with an approved Coastal Management Plan (CMP) concurs with a certification, provided by the applicant, that the activities authorized by the permit are consistent with the CMP (CZMA Section 307(c)(3)(A)). An NPDES permit is considered a “Federal license or permit” under the CZMA. California has a CMP which was approved in 1978; the CZMA authority is the California Coastal Commission (CCC).

For a number of reasons, Region 9 believes that the proposed discharges would not affect the coastal zone of the State of California. First, as noted in section 3.C above, the proposed discharges would not be expected to have significant environmental effects even at the site of the proposed LNG import terminal. Further, the terminal would be located a considerable distance from state waters (about 9.2 nautical miles). As such, Region 9 does not anticipate any effect on any land or water use or natural resource of the coastal zone and the proposed permit does not include any special conditions designed to ensure consistency with the CMP.

For certain NPDES permits issued by Region 9 in the past for relatively minor discharges (and possibly including the proposed LNG import terminal discharges), CCC staff have indicated that the permits could be handled “administratively” which could involve a determination by the CCC staff that the discharges would not affect the coastal zone and that no further action would be necessary. Nevertheless, to ensure that any concerns of the CCC are addressed, the previous permits noted above (and the proposed permit for the LNG import terminal) would not become effective until the discharger provides Region 9 with:

“a certification, concurred upon by the California Coastal Commission, that the activity is consistent with the approved California Coastal Management Program, or a determination by the California Coastal Commission staff that the activity would not affect the coastal zone.”

Region 9 believes that the inclusion of the above condition would ensure compliance with the CZMA for the proposed discharges. If the CCC staff determine that the proposed discharges could affect the coastal zone, the applicant (which is BHP Billiton LNG International) would be required to submit a consistency certification to the CCC and obtain the CCC’s concurrence (prior to the permit becoming effective) that the discharges would be consistent with the CMP.

C. Marine Protection, Research, and Sanctuaries Act

The Channel Islands National Marine Sanctuary was designated in 1980 and encompasses approximately 4,296 km² in the Southern California Bight. The Sanctuary boundaries include the ocean area extending from the mean high-tide line to a distance of 11.1 km around San Miguel, Santa Rosa, Santa Cruz, Anacapa, and Santa Barbara Islands. The islands themselves are not part of the Sanctuary but constitute the emergent portion of the Channel Islands National Park. The seaward boundary of the park extends 1.85 km offshore.

Sanctuary regulations (15 CFR 922.71) provide a list of activities that are prohibited and thus unlawful for any person to conduct or to cause to be conducted within the Sanctuary. No discharges authorized by the proposed permit are within the Sanctuary boundaries; the proposed LNG import terminal would be located more than 10 miles from Sanctuary boundaries. No adverse effects from the proposed discharges on the Sanctuary were identified in the draft EIS/EIR for the terminal, and Region 9 would also not expect any significant effects on the Sanctuary from the proposed discharges.

D. Magnuson-Stevens Fishery Conservation and Management Act

The 1996 amendments to the Magnuson-Stevens Fishery Conservation and Management Act set forth a number of new mandates for NMFS, regional fishery management councils, and Federal agencies to identify and protect important marine and anadromous fish habitat. Regional fishery management councils, with assistance from NMFS, are required to delineate “essential fish habitat” (EFH).

The Magnuson-Stevens Act requires that Federal agencies consult with NMFS on all actions, including permit issuance, undertaken by the agency which may adversely affect EFH. The potential effects of the proposed discharges on EFH were evaluated by the draft EIS/EIR mentioned previously which was prepared for the proposed LNG import terminal; the draft EIS/EIR concluded that there would be no effects. Region 9 also recently prepared an assessment of the potential effects of similar discharges from offshore oil and gas facilities on EFH.¹⁵ This additional assessment also concluded that the discharges which are common to offshore oil and gas facilities and the proposed LNG import terminal would not adversely affect EFH. Given the absence of adverse effects to EFH, Region 9 has not requested a consultation with NMFS concerning the proposed discharges; this is in accord with EFH regulations at 50 CFR 600.920. Region 9 is, however, providing NMFS with a copy of the draft permit and fact sheet in order that NMFS may review and comment on Region 9's conclusion concerning the potential effects of the proposed discharges on EFH.

¹⁵U.S. EPA, Essential Fish Habitat Assessment for NPDES permit No. CAG280000, October 2, 2000.

E. National Environmental Policy Act (NEPA)

Since EPA has not promulgated new source performance standards for LNG import terminals, the proposed NPDES permit for the LNG import terminal would not normally be considered a new source permit which would be subject to NEPA requirements under 40 CFR 6.600-6.607. However, in accordance with the Deepwater Port Act, deepwater ports such as the BHP Billiton's Cabrillo Port LNG import terminal are to be "considered a 'new source' for purposes of the Clean Air Act, as amended [42 U.S.C. 7401 et seq.], and the Federal Water Pollution Control Act, as amended [33 U.S.C. 1251 et seq.]." See 33 U.S.C. §1502(9). Section 511(c) of the CWA requires that Region 9 comply with NEPA prior to the issuance of an NPDES permit for a new source. To fulfill its responsibilities under NEPA for the NPDES permit, Region 9 is participating as a cooperating agency with the U.S. Coast Guard in the NEPA analysis for the project. The draft EIS/EIR for the LNG import terminal was released for public review on November 5, 2004. As noted earlier, Region 9 considered information in the draft EIS/EIR in the development of the draft permit. The final permit will not be issued until the final EIS/EIR has been completed and the final record of decision has been signed.

6. Procedures for Reaching Final Decision on the Draft Permit

A. Public Notice of Draft Permit

EPA issued a Notice of Proposed Action regarding the issuance of the draft permit on April 21, 2006 in the *Ventura County Star*. All interested persons are invited to submit written comments with supporting evidence by the close of the comment period which ends on June 20, 2006. Comments should be sent to Lisa Honor, U.S. EPA, Region 9 (WTR-5), 75 Hawthorne Street, San Francisco, CA 94105. Based on the comments received, EPA will prepare a response to comments and take final action on the permit application.

B. Public Hearing

A public hearing will be held to provide the public an opportunity to express their views on the draft permit. The hearing will be held as follows:

Date: May 23, 2006

Time: 1 p.m.

Place: Oxnard Performing Arts & Convention Center
800 Hobson Way
Oxnard, CA 93030

Any person may provide written or oral statements and data pertaining to the draft permit at the public hearing.

7. Permit Expiration Date

The expiration date of the proposed permit is five years after permit effective date.

8. For Additional Information

Additional information or copies of the draft permit and fact sheet are available by contacting the following: Eugene Bromley, CWA Standards and Permits Office, Water Division (WTR-5), EPA, Region 9, 75 Hawthorne Street, San Francisco, CA 94105-3901, telephone (415) 972-3510, or email at: bromley.eugene@epa.gov. The draft permit and fact sheet are also available on Region 9's website at: <http://www.epa.gov/region9/liq-natl-gas/index.html>.



Figure 1 - Proposed Cabrillo Port

Source: Draft Environmental Impact Statement/Environmental Impact Report for the Cabrillo Port Liquefied Natural Gas Deepwater Port, October, 2004.

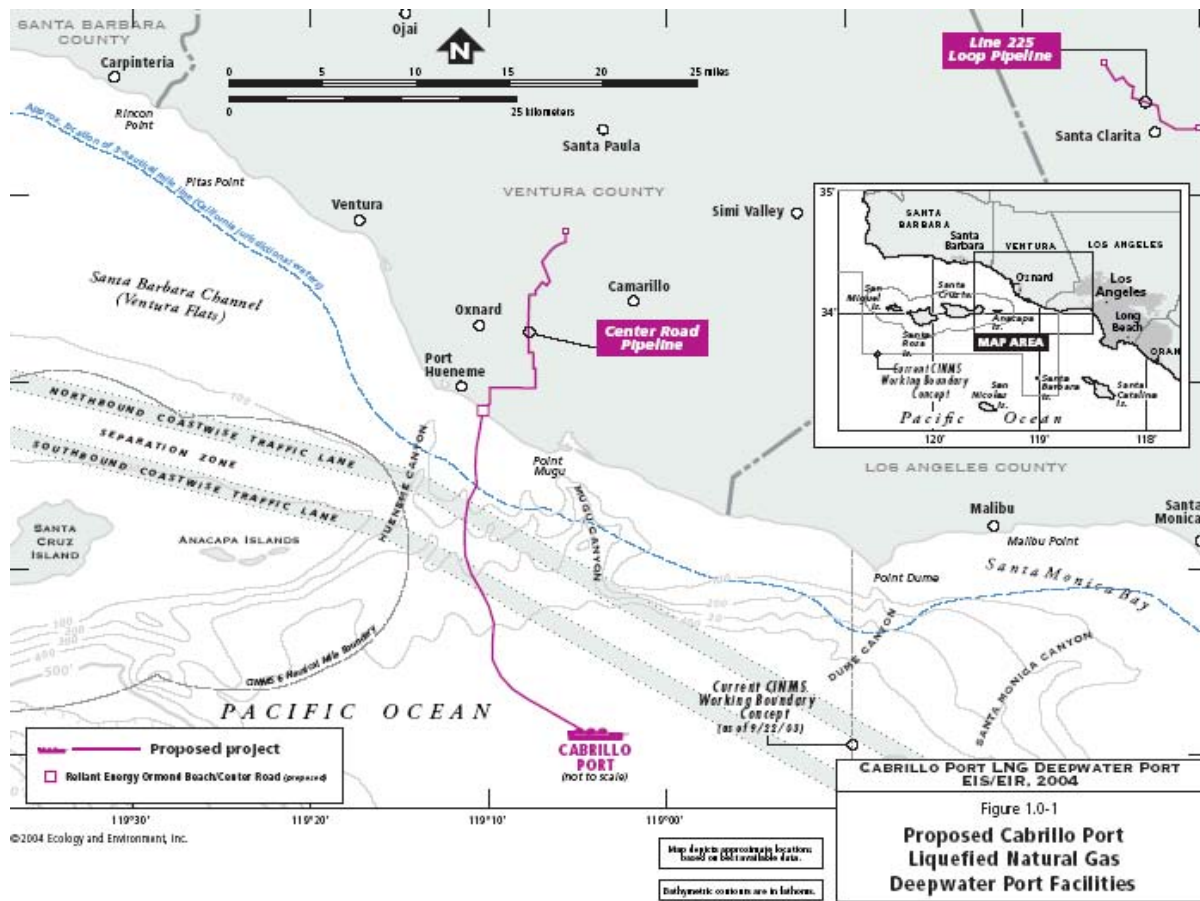


Figure 2 - Location of Proposed Cabrillo Port

Source: Draft Environmental Impact Statement/Environmental Impact Report for the Cabrillo Port Liquefied Natural Gas Deepwater Port, October, 2004.

Modified after Sumitomo Precision Products

- 1) Submerged combustion vaporizer burns natural gas to heat water
- 2) LNG is piped through the heated water bath
- 3) Vaporized natural gas is piped to onshore facility

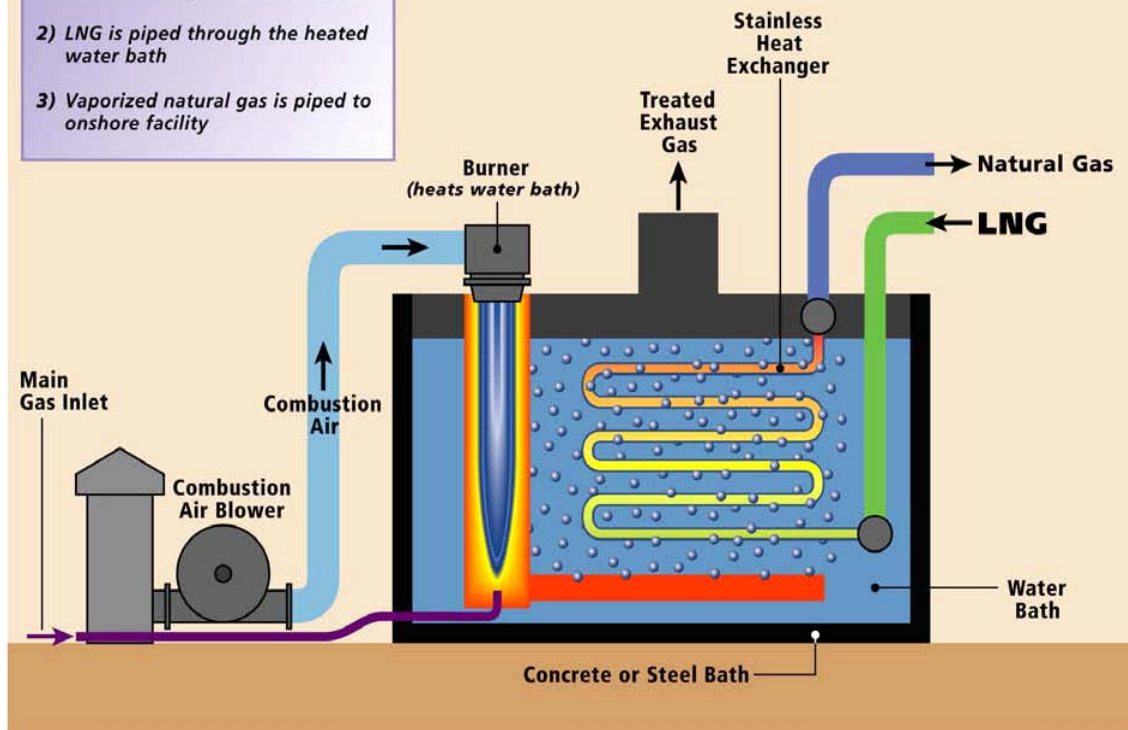


Figure 3 - Submerged Combustion Vaporizer

Source: Draft Environmental Impact Statement/Environmental Impact Report for the Cabrillo Port Liquefied Natural Gas Deepwater Port, October, 2004.